SFX

The Ultimate Audio Tool

For the Atari

LYNX

SFX

The ultimate audio tool

for the Atari Lynx

Welcome to *SFX*, the ultimate audio tool for your Atari Lynx.
Perfect for the hobbyist developer or the curious tinkerer, this sound
utility will allow you almost full control over the four audio channels
available on the Lynx. You can adjust volumes, frequencies,
waveforms, and more. With just a few moments of effort, you'll be
hearing familiar engine hums, rumbling explosions, and computer
garbles. Blend several channels together at once, tinker with them on
the fly it's all possible with *SFX*!

Getting Started:

1. Insert your *SFX* cartridge in your Lynx, with the label side facing
the Lynx.

2. Turn on the machine. The Atari logo appears.

3. Wait a moment, and the *SFX* title screen appears. Press A or B
to enter the *SFX* utility screen, or press Option 2 to turn off the title
screen sound effects.

4. Refer to the following pages for a diagram and explanation of
the controls.

1. Joypad - Up and down select the audio register, right and left alter the register value by +/- 1, respectively.

2. A button - Toggles sound on and off. The speaker icon on the right side of the screen will appear or disappear appropriately.

3. B button - In conjunction with the right and left joypad function, alters the register value by +/- 10 (hexadecimal) instead of +/- 1.

4. Option 1 - Selects one of the four audio channels (numbered 0-3). The current audio channel is displayed at the top of the screen.

5. Option 2 - Resets the current audio channel to its default values. Also mutes sound on title screen.

    Reset - Returns the program to the *SFX* title screen.

    Flip - Disabled.

Hints on creating sound effects:

Note that all registers are represented in hexadecimal notation.

Volume   Simply increases or decreases the volume of the sound. Note that 7F is the loudest volume possible, and that 01 is equivalent to FF but with opposite phase. 80 is equivalent to 00 (no volume).

Shift   Creates feedback used as a polynomial sequence generator to generate waveforms. This (and to a lesser extent the Low Shift register) can be used to create anything from a "pure" square wave to a distortion/noise waveform.

Low Shift   The lower 8 bits of the Shift register (see above).

Backup   Determines the base frequency of the sound. The audio hardware will preload a counter with the Backup value, count down to zero, and then reload it with Backup.

Flags   From the most significant bit (i.e. the leftmost bit):
      Bit 7   Feedback bit 7
      Bit 6   Reset timer done
      Bit 5   Enable integrate mode
      Bit 4   Enable reload
      Bit 3   Enable count
      Bit 2, Bit 1, Bit 0   Clock select

7 = 'linking'	
6 = 64 us	
5 = 32 us	Bits 2, 1, and 0
4 = 16 us	determine the octave
3 = 8 us	of the sound by setting
2 = 4 us	the timer clock speed
1 = 2 us	
0 = 1 us	

Sample Sound Effects:

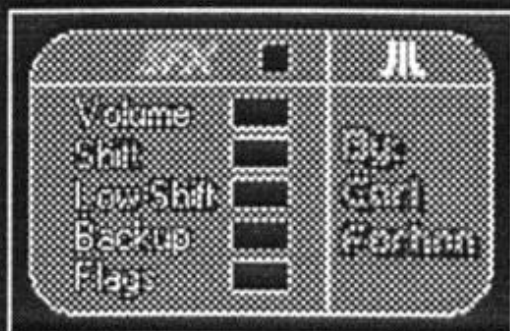|	
Engine Hum	Shift = 09, LS = 00, Backup = 70, Flags = 1E. Adjust Backup register to simulate RPMs.
Machine Gun	Shift = FB, LS = 00, Backup = 10, Flags = DB.
Explosion	Shift = 4B, LS = 00, Backup = 00, Flags = 1E. Increase Backup or decrease Volume registers for effect.
Computer Garble	Shift = 03, LS = 00, Backup = 10, Flags = CE. Adjust Flags with B button and joypad to simulate "data transmission."

More Information:

To order or find more information on new games for the Atari Lynx and Jaguar, visit the *Songbird Productions* web site located at:

http://songbird.atari.org

or reach *Songbird Productions* by email at songbird@atari.org

- *Manual Design and Production by Kevin Manne and Carl Forhan* -

Sample Screen Shots

Songbird Productions